

Appl. No. 10/004,742
Amdt. Dated 24 January 2005
Reply to Office Action of 27 December 2004

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

CLAIMS

What is claimed is:

1. (Currently Amended) A process for de-germinating corn kernels, said corn kernels having bran, endosperm and germ, comprising, in the sequence indicated:
a first tempering step;
a polishing step for removing said bran from said corn kernels;
a second tempering step; and
a friction step.
2. (Original) The process as in claim 1 wherein:
said friction step comprising applying friction forces to said corn kernels between at least two elastic surfaces.
3. (Original) The process as in claim 2 wherein:
each of said at least two elastic surfaces comprising rubber surfaces.
4. (Original) The process as in claim 2 wherein:
each of said at least two elastic surfaces comprising polyurethane surfaces.

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5. (Original) The process as in claim 2 wherein:

 said at least two elastic surfaces comprising surfaces of opposing rotating cylinders.

6. (Original) The process as in claim 5 wherein:

 said opposing rotating cylinders operable at differing tangential velocities.

7. (Original) The process as in claim 6 wherein:

 at least one of said opposing rotating cylinders adjustable in relation to the other said opposing rotating cylinder for adjustment of the friction forces applied to said corn kernels.

8. The process as in claim 2 wherein:

 said first tempering step including wetting said corn kernels and soaking said corn kernels for a sufficient soaking period of time to allow penetration of wetting solution to soften and expand the corn kernel bran.

9. The process as in claim 8 wherein:

 said first tempering step terminating prior to substantial penetration of wetting solution in the corn kernel endosperm or the corn kernel germ.

10. The process as in claim 8 wherein:

 said soaking period of time lasting from three to fifteen minutes.

11. The process as in claim 2 wherein:

 said polishing step comprising providing alternating cycles of compressive forces and relaxation of said corn kernels to remove the corn kernel bran from said corn kernels.

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12. The process as in claim 2 wherein:

 said second tempering step comprising wetting said corn kernels and soaking said corn kernels to soften and expand the corn kernel germ.

13. The process as in claim 12 wherein:

 said second tempering terminating prior to absorption of sufficient wetting solution in the corn kernel endosperm to break down cellular bonds within a starch structure of said endosperm.

14. A process for de-germinating corn kernels comprising, in the sequence indicated:

 a first tempering step including wetting said corn kernels and soaking said corn kernels to for a sufficient period of time to allow penetration of wetting solution to soften and expand the corn kernel bran without substantial penetration of wetting solution in the corn kernel endosperm or the corn kernel germ;

 a polishing step for removing said bran from said corn kernels;

 a second tempering step comprising wetting said corn kernels and soaking said corn kernels to soften and expand said germ without absorption of sufficient wetting solution in said endosperm to break down cellular bonds within a starch structure of said endosperm; and

 a friction step comprising applying friction forces to said corn kernels between at least two elastic surfaces.

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15. The process as in claim 14 wherein:

said at least two elastic surfaces comprising surfaces of opposing rotating cylinders;
said opposing rotating cylinders operable at differing tangential velocities; and
at least one of said opposing rotating cylinders adjustable in relation to the other said
opposing rotating cylinder for adjustment of the friction forces applied to said corn
kernels.

16. The process as in claim 14 wherein:

said first tempering step soaking period of time lasting from three to fifteen minutes.

17. The process as in claim 14 wherein:

said polishing step comprising providing alternating cycles of compressive forces and
relaxation of said corn kernels to remove said bran of said corn kernels.

18. The process as in claim 14 wherein:

a separating step after said friction step for separating said germ from said corn kernels.